

I CLAIM:

1. A face support control system for a self-advancing face support in underground mining with a conveyor, a mining machine, a plurality of support shields, each of which is associated with a control device for controlling the function of the support shields, a communication device for interconnection of the control devices, a face master control arranged outside the face and a communication system for transmitting data between the control devices in the face and the face master control outside the face, wherein the communication system comprises a first face sided radio transmission device and a second face master control sided radio transmission device, wherein the radio transmission devices each have receiver and transmitter modules used to carry out wireless and cable-free bi-directional data transmission in the end region of the face.

2. The face support control system according to claim 1, wherein the first face sided radio transmission device is arranged on one face edge, or two face sided radio transmission devices are arranged on each of the face edges.

3. The face support control system according to claim 1, wherein the communication device in the face comprises a radio transmission system with transmission and receiver modules, which are spaced a plurality of support shields from each other.

4. The face support control system according to claim 1, wherein there is associated with the mining machine a radio transmission system with transmission and receiver modules for bi-directional transmission of control and condition data to the radio transmission devices or to the radio transmission system integrated into the communication device.

5. The face support control system according to claim 4, wherein a control device attached to the communication device in the face is associated with the mining machine.

6. A face support control system adapted for use in an underground mining system including a conveyor, a mining machine, a plurality of support shields, a plurality of control devices for controlling the operation of the support shields, at least one communication device in communication with at least one of the plurality of control devices, and a face master control, the face support control system comprising a communication system providing radio communication between the at least one communication device and the face master control.

7. The face support control system of claim 6 wherein the communication device includes a first radio unit having a transmission module and a receiver module, the communication device being in radio communication with the face master control.

8. The face support control system of claim 7 wherein the communication system further includes a second radio unit having a transmission module and a receiver module, the second radio unit being in communication with the face master control, and wherein the radio communication between the at least one communication device and the face master control is achieved by radio communication between the first radio unit and the second radio unit.

9. The face support control system of claim 6 wherein the underground mining system further includes a second communication device in communication with at least another one of the plurality of control devices, wherein the face support control system provides radio communication between the face master control and the at least one communication device and the second communication device.

10. The face support control system of claim 9 wherein the face support control system provides radio communication between the at least one communication device and the second communication device.

11. The face support control system of claim 6 wherein the underground mining system further includes a radio transmission station providing

radio communication between the mining machine and the at least one communication device.

12. The face support control system of claim 11 wherein the underground mining system further includes a second communication device in communication with at least another one of the plurality of control devices, the radio transmission station providing radio communication between the mining machine and both of the communication devices.

13. A mining system comprising:  
a mining machine adapted to remove material from a face;  
a plurality of support shields proximate the mining machine;  
a plurality of control devices for controlling the operation of, and in communication with, the support shields;  
at least one communication device in communication with at least one of the plurality of control devices;  
a face master control; and  
a radio-based communication system providing radio communication between the at least one communication device and the face master control.

14. The mining system of claim 13 further comprising:  
a radio transmission station providing radio communication between the mining machine and the at least one communication device.

15. The mining system of claim 13 wherein the at least one communication device includes a first communication device and a second communication device.

16. The mining system of claim 15 wherein the radio-based communication system provides radio communication between the first communication device and the second communication device.

17. The mining system of claim 15 further comprising:

a radio transmission station providing radio communication between at least one of the first and second communication devices and the mining machine.

18. The mining system of claim 17 wherein the radio transmission station provides radio communication between (i) the first communication device and the mining machine, and (ii) the second communication device and the mining machine.